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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/592,003 06/12/00 MCHUGH

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IM22/0801

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EXAMINER

LEYSON, J

ART UNIT

PAPER NUMBER

1722

DATE MAILED:

08/01/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

09/592,003

Applicant(s)

MCHUGH, KEVIN M.

Examiner

Joseph Leyson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 June 2000.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-37 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-37 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 June 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

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1. The drawings are objected to because there are two figures labeled "Fig. 4B". One of them should be properly relabeled as --Fig. 4C--. Correction is required.
2. Claims 9-15, 25-31, 36 and 37 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claims 9-15 merely recite the materials to be worked upon by the apparatus which is related to the intended use of the claimed apparatus. Intended use has been continuously held not to be germane to determining the patentability of the apparatus, *In re Finsterwalder*, 168 USPQ 530. Purpose to which apparatus is to be put and expression relating apparatus to contents thereof during intended operation are not significant in determining patentability of an apparatus claim, *Ex parte Thibault*, 164 USPQ 666. Inclusion of the material worked upon by a structure being claimed does not impart patentability to the claims, *In re Otto et al.*, 136 USPQ 458. A recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the

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structural limitation of that claimed, Ex parte Masham, 2 USPQ 2d 1647.

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 3, 4, 19 and 20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 3, line 2, --the-- should be inserted before "reservoir" for antecedent basis clarity.

In claim 4, line 2, --the-- should be inserted before "nozzle" for antecedent basis clarity.

In claim 19, line 2, --the-- should be inserted before "reservoirs" for antecedent basis clarity.

In claim 20, line 2, --the-- should be inserted before "nozzle" for antecedent basis clarity.

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the

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art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 1-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Orme et al.(-360) in view of Alvarez et al.(-853).

Orme et al.(-360) disclose a system including nozzles 22 having flow channels, the flow channel having an inlet end, an outlet end, a pressurized liquid reservoir 11 (col. 6, lines 24-28) in fluid communication with the nozzle flow channel, the reservoir 11 containing a liquid material, such as aluminum, iron, alloys and epoxys (col. 6, lines 29-31) capable of forming a mold, the liquid being pressurized in the pressurized reservoir 11 and injected from the reservoir through conduits 17, 18, 19 ending in the nozzle flow channels, the nozzles forming droplets directed to a chamber 13 containing a quench gas, the quench gas having a controlled temperature and composition for controlling the in-flight cooling of the droplets (col. 6, lines 38-41; col. 7, lines 14-36), means for directing and depositing the cooled atomized droplets onto a pattern 15 to form the mold, and means for providing relative movement between the nozzle and the pattern (col. 6, lines 49-54). It is inherent that the nozzle and reservoir are heated because the liquids are "molten metals" (col. 6, lines 29-31).

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A plurality of liquids can be supplied from a plurality of reservoirs (see fig. 4). However, Orme et al.(-360) does not disclose a nozzle as recited by the instant claims.

Alvarez et al.(-853) disclose nozzles 100, 100a having flow channels with linear transverse cross-sectional geometries, the flow channels having inlet ends, outlet ends and longitudinal axes, a liquid material being injected through a conduit 3, 3a ending in the nozzle flow channel between the inlet and outlet ends and proximate to the nozzle longitudinal axis, and means for flowing a high temperature atomizing gas, such as argon, nitrogen, helium, neon and air (col. 2, lines 56-62), at a flow velocity of supersonic velocities through the nozzle flow channel from the inlet end to the outlet end to atomize the liquid injected into the flow channel into a plume of atomized droplets (col. 3, lines 51-57). The nozzle flow channel converges to a choke portion located between the inlet end and the outlet end, and diverges between the choke portion and the outlet end (see figs. 1 and 2). The liquid material is injected into the nozzle flow channel proximate to the longitudinal axis between the choke portion and the outlet portion (see fig. 1) or between the inlet end and the choke portion of the flow channel (see fig. 2).

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It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to modify the apparatus of Orme et al.(-360) with the nozzle of Alvarez et al.(-853) because the nozzle of Alvarez et al.(-853) would alternatively form droplets and because Orme et al.(-360: col. 1, line 56, to col. 2, line 31) discloses that such nozzles are well known in the art.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph Leyson whose telephone number is (703) 308-2647. The examiner can normally be reached on M-F(8:30-6:00) First Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nam Nguyen can be reached on (703) 308-3322. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-7718 for regular communications and (703) 305-7718 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

jl

jl
July 30, 2001

James P. Mackey
JAMES P. MACKEY
PRIMARY EXAMINER

7/30/01